



# Household saving during pregnancy and facility delivery in Zambia: A cross-sectional study

Aldina Mesic, MPH

Calvin Chui, MA, Peter Rockers, PhD

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# Outline

1. **Background**
2. Methods
3. Results
4. Discussion
5. Next steps



# Background

- Pregnant women struggle to deliver at healthcare facilities in Zambia (67%), especially in rural areas (56%)
- This contributes to high levels of maternal and neonatal mortality – 398 maternal deaths per 100,000 live births
  - There is a high fertility rate of 5.3 births per woman
  - Women face a 1 in 79 lifetime risk of dying during childbirth
- There are ongoing efforts to address low facility delivery rates
  - Refurbishing maternity waiting homes
  - Improving health centers
  - Training skilled birth attendants



# Background

- Pregnant women face financial barriers to access safe delivery services
  - User fees
  - Transportation
  - Delivery supplies
- Facility birth 5x more expensive than home birth
- Women fail to save adequately for delivery
- Little research has been done on the relationship between household savings behavior and facility delivery

## List of delivery supplies pregnant women are required to purchase in Zambia:

Cotton wool, surgical gloves, new cotton thread, baby head sock, razor blades, baby socks, baby blanket, bleach, black plastic, vest, Vaseline, shawl, bucket, basin, napkin, chitenge, dresses for the mother

**Total: ~\$40 USD**



# Purpose

- To explore socio-demographic correlates of savings
- To investigate the relationship between household savings behavior during pregnancy and facility delivery



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# Methods: Sample and Setting

- Collected data during baseline of an ongoing cluster randomized trial evaluating the impact of a maternity waiting home intervention (n=2,381)
- Covers 40 healthcare facilities across seven districts in Southern, Eastern, and Luapula province
- Eligibility: Women who have delivered a child in the last 12 months, who are  $\geq 15$  years of age, and who live at least 10km from their nearest healthcare facility
- Multi-stage sampling



# Methods: Outcomes

- Primary outcome: delivery at a healthcare facility
- Secondary outcomes:
  - Expenditures on pregnancy and delivery related items
    - Delivery supplies, baby clothes, mothers' shelter, transportation, fees, informal payments, tips, drugs, diagnostic test, in-kind resources, other fees
  - Perceived quality of facility-based services
    - Problems with medical care, respect by health workers, privacy during delivery, cleanliness of facility





# Methods: Variables

- Covariates
  - Age, years of education, distance from health clinic, marital status, number of household, parity, gravida, HIV status, and household wealth
- Other variables
  - Number of antenatal care visits
  - First visit timing
  - Preferred delivery location
  - Primary decision maker of delivery location



# Methods: Analysis

- Descriptive statistics
  - Stratified by level of savings during pregnancy
- Logistic regression models (crude and adjusted) between:
  - Demographics and savings
  - Level of savings and facility delivery



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# Results: Demographics (N=2,381)

	mean	(sd)	N
<b>Demographics</b>			
<b>Age</b>	26.11	(6.97)	2,372
<b>Years of education</b>	6.25	(2.31)	2,012
<b>Distance from nearest clinic (km)</b>	15.45	(9.34)	2,375
<b>Married, n(%)</b>	2,092	88%	2,376
<b>Number of household members</b>	6.99	(3.58)	2,381
<b>Number of live births</b>	3.59	(2.35)	2,379
<b>Women pregnant for the first time, n(%)</b>	508	21%	2,379
<b>HIV positive, n(%)</b>	50	2%	2,246



# Results: Savings Behavior (N=2,381)

	mean	(sd)	N
<b>Demographics</b>			
<b>Saving behavior</b>			
- Did not save, n(%)	412	17%	2,361
- Saved, not enough, n(%)	755	32%	2,361
- Saved, enough, n(%)	1,194	51%	2,361
<b>Ever saved at a bank, n(%)</b>	106	4%	2,373
<b>Amongst those who reported saving</b>			
<b>Savings were stored at home, n(%)</b>	1,780	91%	1,954
<b>Months pregnant when started saving</b>	4.95	1.81	1,954
<b>Others contributed towards delivery savings, n(%)</b>	1,340	95%	1,414



# Results: Health Seeking Behavior (N=2,381)

	mean	(sd)	N
<b>Health seeking behavior</b>			
<b>Intended to deliver at a healthcare facility, n(%)</b>	2,355	99%	2,375
<b>Delivered at a healthcare facility, n(%)</b>	1,934	81%	2,376
<b>Self as primary decision maker for site of delivery, n(%)</b>	860	36%	2,381
<b>Months pregnant when attended first ANC visit</b>	4.20	1.46	2,356
<b>Number of ANC visits</b>	3.65	1.06	2,374



# Results: Quality of Care (N=2,381)

<b>Facility quality</b>			
<b>Reported problems with, n(%):</b>			
<b>- Quality of medical care received during delivery</b>	337	18%	1,919
<b>- Respect shown by health care workers</b>	304	16%	1,919
<b>- Privacy during delivery</b>	195	10%	1,924
<b>- Cleanliness of health care facility</b>	183	10%	1,925
<b>- Any of the above</b>	555	29%	1,926



# Results: Savings

- Greater household wealth (aOR 1.37; 95% CI: 1.23, 1.53) and being married (aOR 1.81; 95% CI: 1.33, 2.45) were positively associated with saving enough for delivery
- Being HIV positive was negatively associated with saving enough (aOR 0.50; 95% CI: 0.26, 0.93)
- Each month delay of first antenatal visit was associated with a 14% (aOR 0.86; 95% CI: 0.80, 0.92) reduction in the odds of saving enough





# Results: Savings and Facility Delivery

- Compared to those who did not save, those who saved but not enough had significantly higher odds of delivering at a health facility (aOR 1.63; 95% CI: 1.17, 2.25)
- Those who saved enough had the highest odds of delivering at a facility (aOR 2.86; 95% CI: 2.05, 3.99)
- Among women who delivered at a facility, those who saved enough were significantly less likely to report problems with service quality (aOR 0.65; 95% CI: 0.46, 0.92)



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# Discussion: Key Findings

- Only half of women in this population saved enough for their delivery
- Level of savings accrued during pregnancy is strongly correlated with facility delivery
- Saving during pregnancy is important for improved maternal health outcomes



# Discussion: Limitations

- Measure of level of savings used relies on women's own estimation of whether their savings were enough
- Cannot establish causal directionality in the correlation between early first attendance at antenatal care and saving enough for delivery
- Measure of service quality relies on perceived problems by pregnant women



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# Next Steps

- Future research should focus on exploring interventions that encourage saving early in pregnancy to improve access to safe delivery services



# Feasibility pilot

- Partnered with World Vision Zambia and Financial Sector Deepening to pilot an intervention package focused on addressing financial barriers to care and behavioral barriers to savings across 20 villages in the Southern Province

## **Financial barriers**

Cost of delivery supplies  
Costs of transportation

## **Behavioral barriers**

Uncertainty regarding the scale  
of the task  
Present-bias  
Scarcity of attention



# Village savings groups adaptations

- Maternity loans, maternal bonuses, storing personal savings in cash box, maternity fund
- Maternity loans (89%), maternity bonus (87%), storing personal savings in group's cash box (100%)



# Behavioral tools for personal saving

- Community health workers provide customized financial counselling to pregnant women
- Setting a target, develop plan, follow up on progress towards savings, reminder through “savings poster” at home



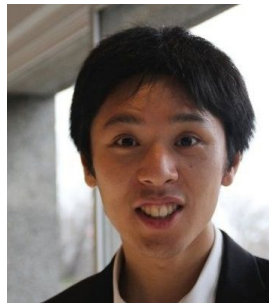


# Next steps and acknowledgements

- Randomized impact evaluation of the intervention package



**MAHMAZ**



Thank you



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POVERTY ACTION